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ABSTRACT

The prediction that children would have more difficulty learning to differentiate faces of another race than their own, even though objective differences were constant, was tested. A discrimination task, consisting of two schematic drawings of faces cut from varying shades of brown (Caucasian), pink-tan (Negro) and green (control), and a doll choice task, using two black and two white dolls (one of each sex) were administered to 192 integrated nursery schools and public kindergartens. They were equally divided as to age, sex, and race (black or white). The younger group averaged 3 years 11 months and the older group 5 years and 2 months. Each subject was tested individually; half of each group was tested by a white examiner and half by a black examiner. An analysis of variance was carried out on the scores obtained on both tasks. Results showed that the prediction that children would have more difficulty learning to differentiate faces of another race was confirmed with both black and white children. The pattern of the results on both tasks indicated that responses based upon racial cues are already quite complex in three-year-old children. On the discrimination learning task, black children learned more quickly, and the performance of younger children was enhanced when tested by an examiner of another race. When the lighter member of the pair was reinforced in the discrimination learning task, all children learned more easily. The doll choice showed that both black and white preschool children strongly prefer the white dolls. Tables provide the study data. (DB)

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Perception of Racial Cues in Preschool Children

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Although it is generally acknowledged that the development of intergroup attitudes is a complex phenomenon, research with young children has focused primarily upon awareness of racial differences. In this regard, a number of investigations have demonstrated that most children distinguish cues associated with racial groups by the age of five. The relation between this racial awareness, however, and the acquisition of subsequent negative attitudes is far from clear. Thus, although there is ample evidence that most preschool children are not color-blind, such demonstrations provide little information about the kinds of racial attitudes children will develop. Perception of between-group differences may be a necessary condition for negative attitude development, but is scarcely a sufficient one.

Considerably more may be involved in the process of early ethnic differentiation, and the purpose of the present study was to explore some of these factors. It is the view of the present investigators that the early development of group differentiation is composed of two related, but separable processes: (a) increased attention to physical differences between groups, and (b) a concomitant decrease in perceptual distinctiveness

among the members of another group. Both of these processes, of course, can be enhanced by labels and evaluative adjectives supplied by adults, and thus exemplify the phenomena of "acquired distinctiveness" and "acquired equivalence of cues" (Dollard & Miller, 1950). Empirical concern has been focused upon the distinctiveness part of the process. It is possible, however, that the consequences of "acquired equivalence" may be of at least equal significance in the development of attitudes. Continued use of the same verbal label for all members of a group would be expected to inhibit the learning of within-group discriminatory responses and consequently, to facilitate the generalization of evaluative statements. Since racial labels are typically applied with greater frequency to members of groups other than one's own, this reasoning generates the prediction that children will have difficulty learning to discriminate faces of another group than those of their own. The major purpose of the present study was to test this prediction. A corollary expectation was that such an effect would be more pronounced in older than in younger children. Towards this end, a discrimination learning task employing faces of varying colors was employed, with nursery and kindergarten children.

A second purpose was to assess the relation between inter-group distinctiveness and within-group similarity. Thus, following the learning tasks, a traditional doll choice task employing Negro and Caucasian dolls was administered.

Method

Subjects. A sample of 192 children was drawn from two nursery schools and public kindergartens in a racially integrated lower- to lower-middle-income area of New York City. They were equally divided as to age, sex, and race (black or white). The younger group averaged 3 yrs., 11 mos.,

and the older 5 yrs., 2 mos.

Discrimination Task. The stimuli were two schematic drawings of faces cut from varying shades of brown, pink-tan and green art construction paper. Each color pair was alike in all respects except shade, and adult observers judged shade differences within each color condition to be equally spaced. The green faces were included as a control for possible unfamiliarity. If other-race stimuli (i.e. brown for Caucasian children and pink-tan for Negro) were difficult to distinguish simply because of relative unfamiliarity, then green faces should be equally difficult to distinguish. If, on the other hand, the predicted difficulty of discriminating other-race faces is due to the continued use of a racial label, then green faces should be more easily differentiated.

Stimuli were exhibited by means of a Kendler-type apparatus utilizing two aperatures. Position was varied according to a predetermined random order. Ss were instructed to pretend they were astronauts and to press the picture of the "moon person" to be taken back to earth. Marbles were automatically delivered for a correct choice, and these were traded in for prizes at the end of the season. The lighter face was reinforced for half the Ss in each group, and the darker one for the other half. Testing was discontinued after either five consecutive correct responses or 25 trials.

Doll Choice Task. Following the learning tasks, four dolls were introduced to the child. Two black and two white dolls, one of each sex, were used. The dolls were made of rubber and were approximately ten inches tall. They were alike in all respects except for skin color, length of hair and clothing--, i.e. boy dolls had shorter hair and wore pants, whereas female dolls had longer hair and wore skirts. They all had brown eyes and brown hair. It should be mentioned that these doll choices differed from

those used in earlier studies in two ways: (a) gender variations have not been typically included, and (b) racial differences in dolls have been defined not just by skin color, but also by eye and hair color, i.e., white dolls typically have blue eyes and blonde hair.

With regard to the dolls, children were asked to select: (a) the doll they liked best, (b) the one they didn't like as much as the others, (c) the good doll, (d) the bad doll, (e) the one that was a nice color, (f) the one that was not a nice color, and (g) the one they would prefer to take home. In addition, identification questions were asked, and the child was asked to give reasons for preferences at the end of the questions procedure.

General Procedure. Each S was tested individually in a room in the school. Half the Ss within each group were tested by a white examiner and half by a black E. The Es were female, in their middle twenties.

Results

Discrimination Task. The mean trials to criterion on the learning tasks are presented in Table 1 of the handout sheet. An analysis of variance of these scores indicated that the main effects of Race of Subject ($F_{1,98} = 8.50$), Age ($F_{1,98} = 6.56$), Treatment ($F_{2,98} = 3.72$) and Shade Reinforced ($F_{1,98} = 7.19$) were all statistically significant. The Race of S effect indicates that black children learned more rapidly than white ones, a mean of 11.59 trials to criterion contrasted with 15.70. The Age effect is in the expected direction, with nursery school children averaging 15.32 trials to reach criterion, and kindergarten children averaging 11.95. The Treatment effect revealed that, as expected, children had more difficulty learning to discriminate faces of another race than faces of their own. That this finding was not simply a function of unfamiliarity with other-race faces is shown by the fact that the "non-meaningful" green faces were somewhat

more easily discriminated than same race stimuli. The mean trials to criterion scores for same-race, other-race and green stimuli was 13.16, 16.20, and 11.73, respectively. Subsequent statistical breakdowns revealed that same-race and other-race stimuli differed significantly from each other ($F = 3.96$). The green-face condition, however, was not significantly different from the same-race group.

The effect attributable to Shade Reinforced reflects the finding that children more readily learned the discrimination when the lighter member of each pair was reinforced, a mean of 11.86 trials to criterion compared to 15.53 when the darker member of the pair was reinforced. Since the variable was included only for counterlabeling, it was a somewhat surprising finding, and may indicate some initial preference for lightness.

Two additional interactions were significant in the analysis: (a) Race of E X Race of S ($F_{1,98} = 4.95$) and (b) Race of E X Race of S X Age ($F_{1,98} = 5.17$). The first interaction indicates that children learned more quickly with an examiner of another race. The second interaction, however, indicates that this trend was present only at the younger age levels. Race of E did not make a difference at the kindergarten level. (One possible explanation of this finding is that the presence of an examiner of another race may have made the shade cues more salient for the younger children.) The results on this task seem to indicate that children's discrimination learning performance with regard to racial stimuli is affected by a variety of parameters not ordinarily taken into account in more neutral paradigms.

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Doll preference task. In earlier studies, frequencies to each question have been tabulated and nonparametric tests have been conducted. A more efficient way of handling the data is to combine responses to the various questions and assign each child a racial and sexual preference score. In the present study, a child's racial preference score was determined by the

number of times he chose a same-race doll for positive items and an other-race doll for negative items. Similarly a sexual preference score for each child was determined on the basis of the number of times the child chose a same-sexed doll for positive and other-sexed doll for negative characteristics.

The average racial preference scores for the positive and negative items are contained in Table 2 of the handout. The possible range was from 0 to 1. Lower scores indicate choices of other-race dolls for positive items, and same-race dolls for negative attributes. High scores indicate the opposite pattern, i.e., same-race choice for positive- and other-race choice for negative items. Scores close to .5 indicate a random choice close to chance distribution.

It can be seen in Table 2 that, for the most part, the children's scores did not differ much from chance expectancy. This trend was in contrast to earlier results obtained by Clark & Clark, and others, which showed that both black and white preschool children have strong preferences for white dolls. If the results presented in Table 2 conformed to earlier results, the white children should have averaged about .7, whereas the black Ss should have received scores of approximately .3 (indicating other-race choices).

A four-way analysis of variance conducted on the racial preference scores (Age X Race of E X Race of S X Type of Item) revealed the following effects to be significant: Age ($F_{1,184} = 3.90$); Type of Item ($F_{1,184} = 4.58$); Race of E X Race of S ($F_{1,184} = 3.92$); and Age X Type of Item ($F_{1,184} = 4.18$). The Age effect indicates that nursery school children exhibited a slight preference for other-race dolls (.41) whereas the older children's distribution does not exceed chance expectation. Doll choices are influenced by whether children are being tested by a same- or cross-raced examiner. The significant Race of E X Race of S interaction reflects the finding that children are more prone

to express prejudicial responses when tested by an examiner of the same race. This trend appears more pronounced in white than in black children. The performance of the kindergarten white children is particularly interesting since they show a preference for white dolls with the white examiner, but a preference for black dolls with the black examiner. The Type of Item effect reflects the finding that children expressed less prejudice with regard to positive attributes. This tendency was more pronounced for the nursery group, as indicated by the Age X Type of Item interaction.

It is apparent that racial preference scores are quite complex, even at these relatively early developmental levels. The children's responses indicated some awareness of differential social desirability, depending upon the race of the tester. Whether a child will select either a black or a white doll appears to be affected by a number of factors, which include the experience immediately preceding the test. (Reinforcement of lighter faces with a white E or dark faces with a black E elicited higher RP scores on the doll task ($F_{1,144} = 5.68$).

Sexual preference. Since the children could choose the dolls on the basis of skin color or gender cues, an analysis of variance was conducted on the sex preference scores of the children. These scores are contained in Table 3 of the handout. Analysis of these sex preference scores revealed that the main effects of Sex of S ($F_{1,176} = 12.03$), Type of Item ($F_{1,176} = 10.68$), and the Sex of S X Type of Item interaction ($F_{1,176} = 9.40$) were significant.

As can be seen in Table 3, the significant results indicate that girls had much stronger preferences for same-sexed dolls (mean of .63) than did boys (a mean of .49), particularly with regard to positive attributes. None of the other main or interaction effects were significant in the analysis.

A comparison of Tables 2 and 3 is interesting in that it indicates that, at least for girls, gender appears to be a much stronger cue for doll choice than skin color.

Verbal behavior on doll choice task. Following the doll choice task, Ss were explicitly asked to give the reasons for their choice. Perhaps the most interesting findings with regard to how children describe their doll choices is the relative absence of verbalization related to color cues. It should be recalled there were 192 Ss who were each asked seven questions. Out of a total of 1,344 possible responses, only 66 (5%) were made on the basis of color or other racial characteristics. It may be that the children were simply inhibited about stating such reasons for choices. If this were so, however, it would be expected that more color descriptions might emerge with a same-raced examiner, but there were no differences attributable to Race of E. Moreover, if inhibition was involved, the older children should give fewer color responses, but they actually gave slightly more (again, a non-significant difference). More typical of the verbal responses given by children were: "His hair is too short;" "She bothers him too much;" "He shouts too much", etc., which referred to either gender cues, clothing or imagined personality characteristics. Thus it may be concluded that children did not respond overtly to racial cues on the doll task with great frequency.

Relation between inter- and intra-group discriminability. The correlations between doll choice scores and discrimination learning scores were not significant, either for the entire group, or for the groups assigned to other-race stimuli on the learning task. Thus, it may be concluded that inter- and intra-group discriminability are indeed separable processes. In view of the relatively high racial identification scores, however, a better test of the developmental relation should be made at an earlier age level.

Discussion

The present investigation tested the prediction that children would have more difficulty learning to differentiate faces of another race than their own, even though objective differences were constant. This prediction was confirmed with both black and white nursery school and kindergarten children. Although the effect was somewhat more pronounced in older children, the predicted interaction of age and stimulus condition was not obtained. It may well be that the youngest group in the present study were already too old to adequately test this developmental trend.

The finding that children more readily discriminate faces of their own race can undoubtedly be explained in a number of ways. One possibility is that faces of another race are more unfamiliar to young children. The result that green faces were more easily differentiated tends to rule out this explanation, however, The findings are in accordance with the interpretation that racial labels may increase the perceptual similarity of faces of another race. The consequences of acquired equivalence of cues with regard to racial stimuli might increase stimulus generalization, and, thus facilitate the subsequent learning of stereotypes and negative attitudes. Although these latter possibilities were not directly assessed in the present study, the findings with regard to other- and same-race differentiation suggest an important mechanism of attitude development.

The pattern of results obtained on both the learning and the doll choice tasks indicates that responses based upon racial cues are already quite complex, even in three-year-old children. On a discrimination learning task involving shade cues, black children learned more quickly. Moreover, the performance of younger children was enhanced when tested by an examiner of another race. This suggests that although color and shade cues appear

to be more important determinants of discrimination learning performance for black and older children, interaction with an adult of another race may increase the salience of such cues for younger children and thus increase performance.

One particularly surprising finding to emerge was the greater ease with which all children learned the discrimination task when the lighter member of the pair was reinforced. It may well be that the children had some initial preference for lighter over darker shades. Williams (1971) has recently advanced the view that such preferences occur early in life, and may reflect the child's initial preference for daylight over night. Such preferences, it is argued, may then be reinforced both directly and indirectly by the various linguistic connotations associated with the words "black" and "white". It should be noted, however, that although the children in the present study learned more readily with a lighter shade within each color, they did not express strong preferences for Caucasian over Negro figures. An alternative possibility for the light preference obtained on the learning task may have to do with the specific instructions employed. It should be recalled that the stimuli were introduced to the children as "moon people" and they were instructed to role-play an astronaut and choose the member of the pair to be taken back to earth. Although these appeared to be relatively innocuous instructions designed to maintain the children's interest, the responses may well have indicated the child's interpretation of what the astronaut might have done.

The overall pattern of results obtained with regard to children's doll choices were not in accordance with the clear-cut white doll preferences previously reported by most investigators and warrants some comment. It would indeed be tempting to interpret the present findings as indicative of

historical change in children's attitudes. Unfortunately, however, the Clarks' early findings have been replicated very recently, in many places, including their original community (Asher & Allen, 1969). Therefore, the discrepant findings obtained in the present study are more likely due to procedural differences. One possibility is that when given another basis for choice (i.e., gender), skin color is not that salient for young children. Since only skin color was varied in the present study, a second possibility is that earlier results reflected a preference for cues other than skin color. Children, like the proverbial "gentlemen", may prefer blondes. A third possibility is that in earlier studies Ss were not actually expressing their own racial preference, but were rather giving what they regarded as the socially desirable response anticipated by the examiner. In any event, there appears to be ample reason to question some of these earlier findings as well as the task itself.

What emerges clearly from the present findings is that preschool children have already undergone considerable socialization with regard to inter-group attitudes, and their expression. Differential perceptions of same- and other-race stimuli appear to be farily well-established by age four, although these are not necessarily related to evaluative statements, preferences or verbal behavior. The present study suggests that further examination of the perceptual processes underlying the development of racial attitudes, and their relation to intergroup behavior will be fruitful.

TABLE 1

MEAN TRIALS TO CRITERION ON DISCRIMINATION LEARNING TASK

Group			Treatment		
Age	Race of S	Race of E	Same-race	Other-race	Green faces
Nursery	White	White	20.50	22.12	18.00
		Black	7.50	15.38	14.68
	Black	White	11.50	12.75	12.75
		Black	16.75	19.12	14.12
Kindergarten	White	White	17.62	17.12	11.00
		Black	17.25	19.88	7.00
	Black	White	6.62	12.50	9.88
		Black	7.50	10.75	7.00

TABLE 2

AVERAGE RACIAL PREFERENCE SCORES ON DOLL CHOICE TASK

Group			Type of Item		
Age	Race of S	Race of E	Positive	Negative	Combined
Nursery	White	Same	.44	.52	.48
		Other	.38	.40	.39
	Black	Same	.29	.44	.36
		Other	.34	.45	.40
Kindergarten	White	Same	.63	.65	.64
		Other	.40	.36	.38
	Black	Same	.55	.52	.54
		Other	.44	.50	.47

TABLE 3

AVERAGE SEX PREFERENCE SCORES ON DOLL CHOICE TASK

Group		Type of Item		
Age	Sex of S	Positive	Negative	Combined
Nursery	Male	.48	.50	.49
	Female	.64	.50	.57
Kindergarten	Male	.50	.48	.49
	Female	.79	.58	.68